UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,443	09/28/2001	Man Keon Oh	HI-036	1679

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EXAMINER
SCUDERI, PHILIP S

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
		09/964,443	OH, MAN KEON
Office Action Summary		Examiner	Art Unit	
		Philip S. Scuderi	2153	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 March 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-3,5-8 and 10-26</u> is/are pending in the application.

    4a) Of the above claim(s) <u>4,9 and 27</u> is/are withdrawn from consideration.

5)☒ Claim(s) <u>23-26</u> is/are allowed.

6)☐ Claim(s) <u>1-3,5-8 and 10-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 September 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

The previous rejections have been withdrawn. New grounds of rejection have been

introduced. Accordingly, this action is non-final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the
subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary
skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the
invention was made.

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al.

(U.S. 6,496,511, hereinafter "Wang") in view of Slaughter, III et al. (U.S. 5,598,536, hereinafter

"Slaughter").

With respect to claim 1, Wang discloses an internet protocol (IP) address managing

apparatus, comprising:

o a switch unit (fig. 1 (10), fig. 6 (216)) that searches for an idle IP address among a plurality of IP

   addresses (col. 4 lines 11-18) to allocate the idle IP address (fig. 6 (IP Address Response)) to an

   internet connection system (fig. 1 (2), fig. 6 (230)); and

o   an IP service network unit connected to said switch unit and having at least one router for a

LAN-to-LAN connection (fig. 1 (8), the Internet is a network of network comprising routers),

Wang does not expressly disclose that the IP addresses are stored in a database wherein said

database searches for the idle IP address, under the control of a call processing unit, when said

internet connection system requests the call processing unit allocate the idle IP address.

Nonetheless, using a database to manage IP addresses in a remote access server was well

known, as evidenced by Slaughter. In a similar art, Slaughter discloses a remote access server (fig. 1

(16)) comprising a database (fig. 1 (30)) wherein said database searches for an idle IP address, under

the control of a call processing unit (fig. 1 (16), col. 4 lines 11-13), when an internet connection

system requests the call processing unit allocate the idle IP address (col. 3 lines 50-52).

Given the teachings of Slaughter it would have been obvious to one of ordinary skill in the

art to store the IP addresses in a database, search for the idle IP address under the control of a call

processing unit, and to allocate the idle IP address when requested to do so by the internet

connection system. The motivation for doing so would have been to provide a centralized location

for storing the IP addresses, thereby making them as manageable as possible.

With respect to claim 6, Wang discloses an apparatus for managing internet protocol (IP)

addresses, comprising:

o   an IP service network unit having a router for a LAN-to-LAN connection (fig. 1 (8), the

Internet is a network of network comprising routers); and

o   a switch unit (fig. 1 (10), fig. 6 (216)) that connects a subscriber (fig. 6 (230)) to said IP service

network unit (fig. 1 (8)), controls a call inputted from said subscriber (col. 4 lines 11-18),

searches for and allocates an idle IP address according to an IP address allocation request (col. 4

lines 11-18) from an internet connection system (fig. 1 (2), fig. 6 (230)), and returns a currently

used IP address and sets the currently used IP address to be reused (col. 9 lines 32-34),

according to an IP return request from said internet connection system (col. 9 lines 26-28).

Wang does not expressly disclose that the IP addresses are stored in a database wherein said

database searches for the idle IP address, under the control of a call processing unit, when said

internet connection system requests the call processing unit allocate the idle IP address.

Nonetheless, using a database to manage IP addresses in a remote access server was well

known, as evidenced by Slaughter. In a similar art, Slaughter discloses a remote access server (fig. 1

(16)) comprising a database (fig. 1 (30)) wherein said database searches for an idle IP address, under

the control of a call processing unit (fig. 1 (16), col. 4 lines 11-13), when an internet connection

system requests the call processing unit allocate the idle IP address (col. 3 lines 50-52).

Given the teachings of Slaughter it would have been obvious to one of ordinary skill in the

art to store the IP addresses in a database, search for the idle IP address under the control of a call

processing unit, and to allocate the idle IP address when requested to do so by the internet

connection system. The motivation for doing so would have been to provide a centralized location

for storing the IP addresses, thereby making them as manageable as possible.

Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view

of Slaughter, and further in view of Applicant Admitted Related Art (background of the

specification, hereinafter "AARA").

With respect to claims 2 and 7, Wang-Slaughter teaches the method applied to claim 1 and the apparatus applied to claim 7, wherein a database (Slaughter fig. 1 (30)) is connected to said call processing unit (Slaughter fig. 1 (16)) to manage the plurality of IP addresses (Slaughter col. 4 lines 2-4).

Wang-Slaughter does not expressly disclose the following steps:

o   the call processing unit determines if a call requires the idle IP address and performs a call process to said internet connection system when a subscriber attempts the call; and

o   a number translating unit connected with said call processing unit that translates a destination number inputted from the subscriber.

Nonetheless, it was well known in the art to perform the steps listed above, as evidenced by AARA. In a switching system (i.e. a Remote Access Server), AARA discloses:

o   a call processing unit determines if a call requires the idle IP address and performs a call process to said internet connection system when a subscriber attempts the call (paragraph 5 lines 1-3); and

o   a number translating unit connected with said call processing unit that translates a destination number inputted from the subscriber (paragraph 5 lines 3-4).

Given the teachings of AARA it would have been obvious to one of ordinary skill in the art to perform the steps listed above so that idle IP addresses are only assigned when needed.

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Slaughter, and further in view of *IP Addresses*

("http://web.archive.org/web/20000301015621/http://www.cisco.com/univercd/cc/td/doc/prod

uct/atm/l2020/2020r21x/planning/appndxa.htm", 3/1/2000, hereinafter "Reserved Addresses").

With respect to claims 3 and 8, Wang-Slaughter teaches the IP address managing apparatus

applied to claim 1 and the apparatus applied to claim 6. It would have been inherent that each record

of the database corresponds to one of the plurality of IP addresses and each record comprise fields

A, B, C, and D that specifically discriminate the corresponding IP address. It would have been

necessary for each record to further comprise a use structure that indicates if the corresponding IP

address is being used currently so that the switch unit could search for an idle IP address in the

database.

The instant teachings do not teach a flag indicating a validity or invalidity of the

corresponding IP address. Nonetheless, including such a flag would have been obvious to one of

ordinary skill in the art. In a similar art, Reserved Addresses discloses that specific IP addresses are

reserved for uses such as experimental use and universal broadcasting (p. 6 section titled "Reserved

Addresses"). Given the teachings of Reserved Addresses it would have been obvious to one of

ordinary skill in the art to include a flag indicating a validity or invalidity of the corresponding IP

address, thereby providing a method for making sure that a reserved IP address is not allocated to

internet connection systems.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of

Slaughter.

With respect to claim 5, Wang-Slaughter teaches the method applied to claim 2, further comprising an IP management unit in said call processing unit for managing the plurality of IP addresses in said database (Wang fig. 6 (210)).

Claims 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Slaughter.

With respect to claim 10, Wang discloses an IP address managing method, comprising:

o   connecting to an internet connection system (fig. 1 (4)) identified by a destination number (a modem on a telephone network (6) is identified by a telephone number);

o   requesting IP address allocation (fig. 6 (IP Address Request)) from a call processing unit (fig. 1 (10), fig. 6 (216)) for the internet connection system (fig. 1 (4));

o   searching for an idle IP address (col. 9 lines 42-44) in response to the requested IP address allocation (col. 9 lines 24-25); and

o   transmitting the idle IP address to the internet connection system (col. 9 lines 44-49, the unique IP travels through modem 4 (i.e. the internet connection system) to CPE 2).

Wang does not expressly disclose that the IP addresses are stored in a database.

Nonetheless, using a database to manage IP addresses in a remote access server was well known, as evidenced by Slaughter. In a similar art, Slaughter discloses a remote access server (fig. 1 (16)) comprising a database (fig. 1 (30)) wherein said database searches for an idle IP address, under the control of a call processing unit (fig. 1 (16), col. 4 lines 11-13), when an internet connection system requests the call processing unit allocate the idle IP address (col. 3 lines 50-52).

Given the teachings of Slaughter it would have been obvious to one of ordinary skill in the art to store the IP addresses in a database, search for the idle IP address under the control of a call processing unit, and to allocate the idle IP address when requested to do so by the internet connection system. The motivation for doing so would have been to provide a centralized location for storing the IP addresses, thereby making them as manageable as possible.

With respect to claim 11, Wang-Slaughter discloses the IP address managing method applied to claim 10, further comprising connecting a subscriber (Wang fig. 1 (2), fig. 6 (230)) to an IP service network (Wang fig. 1 (14)).

With respect to claim 12, Wang-Slaughter discloses the IP address managing method applied to claim 11, further comprising requesting a call termination by the subscriber (Wang col. 9 lines 26-28).

With respect to claim 13, Wang-Slaughter discloses the IP address managing method applied to claim 12, further comprising sending a call release request to the call processing unit from the internet connection system (Wang col. 9 lines 26-28), and releasing a call from the internet connection system and the IP service network (Wang col. 9 lines 26-28).

With respect to claim 14, Wang-Slaughter discloses the IP address managing method applied to claim 13, further comprising returning the idle IP address to the database, under the control of the call processing unit (Wang col. 9 lines 32-34).

With respect to claim 15, Wang-Slaughter discloses the IP address managing method applied to claim 14, wherein a flag and a use of the idle IP address are reset according to an IP address status, when the idle IP address is returned to the database (Wang col. 9 lines 32-34, necessary in order for the IP addresses to be available for reassignment).

With respect to claim 16, Wang-Slaughter discloses the IP address managing method applied to claim 15. Boolean values of Y/N or Yes/No are very well known in the art. It would have been necessary to set the flag to a value of F and the use to a value of No, when the idle IP address is retuned to the database due to a fatal error, and the flag set to a value of T and the use is set to a value of No when the idle IP address is returned for a reason other than the fatal error because the database record corresponding to the IP address must stay consistent with the status of the IP address in order for the IP addressees to be reassigned correctly.

With respect to claim 17, Wang-Slaughter discloses the IP address managing method applied to claim 10, wherein an idle IP address list is managed in the database (Wang col. 9 lines 30-34) and searched under control of the call processing unit (Wang fig. 1 (10), fig. 6 (216))

With respect to claim 18, Wang-Slaughter teaches the IP address managing method of claim 10, wherein the call processing unit has an additional control unit that searches for the idle IP address in the database (Wang fig. 6 (210)).

With respect to claim 19, Wang-Slaughter teaches the IP address managing method applied

to claim 10, wherein the idle IP address is identified by state values and a use of the idle IP address

(Wang col. 9 lines 32-34, necessary in order for the IP addresses to be available for reassignment).

Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view

of Slaughter.

With respect to claim 20, Wang discloses an internet protocol (IP) switching system,

comprising:

o a call processor (fig. 6 (210)) for processing a call from a subscriber and for interconnecting a

   subscriber (fig. 1 (2), fig. 6 (230)) with one of a number of internet connection systems (1 of 1

   internet connection systems (fig. 1 (10), fig. 6 (216)))), based on call information within the call

   (the phone number used to connect to the RAS through the PSTN, see fig. 1);

o the call processor (fig. 6 (210)) maintaining a record of idle IP addresses, which are not allocated,

   and active IP addresses, which are allocated to a number of active calls (col. 9 lines 42-29); and

o the call processor (fig. 6 (210)) allocating an idle IP address to a requesting subscription unit

   upon receiving a request from the subscription unit (col. 9 lines 16-17).

Wang does not expressly disclose that the IP address pools (i.e. management information)

(e.g. col. 9 line 31) are stored in a database. Nonetheless, using a database to manage IP addresses in

a remote access server was well known, as evidenced by Slaughter. In a similar art, Slaughter

discloses a remote access server (fig. 1 (16)) comprising a database (fig. 1 (30)) wherein said database

searches for an idle IP address, under the control of a call processing unit (fig. 1 (16), col. 4 lines 11-13).

Given the teachings of Slaughter it would have been obvious to one of ordinary skill in the art to store the IP addresses in a database. The motivation for doing so would have been to provide a centralized location for storing the IP addresses, thereby making them as manageable as possible.

With respect to claim 21, Wang-Slaughter teaches the switching system applied to claim 21. Wang further discloses a number translation unit (fig. 1 (6)) that translates a number within the call information to an identification of a corresponding internet connection system (the phone number of network server 10), of the number of internet connection systems (fig. 1 (1 internet connection system)).

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Slaughter, and further in view of Reserved Addresses.

With respect to claim 22, Wang-Slaughter teaches the switching system applied to claim 20. It would have been inherent that each record of the database corresponds to one of the plurality of IP addresses and each record comprise fields A, B, C, and D that specifically discriminate the corresponding IP address. It would have been necessary for each record to further comprise a use structure that indicates if the corresponding IP address is being used currently so that the switch unit could search for an idle IP address in the database.

The instant teachings do not teach a flag indicating a validity or invalidity of the corresponding IP address. Nonetheless, including such a flag would have been obvious to one of ordinary skill in the art. In a similar art, Reserved Addresses discloses that specific IP addresses are reserved for uses such as experimental use and universal broadcasting (p. 6 section titled "Reserved Addresses"). Given the teachings of Reserved Addresses it would have been obvious to one of ordinary skill in the art to include a flag indicating a validity or invalidity of the corresponding IP address, thereby providing a method for making sure that a reserved IP address is not allocated to internet connection systems.

Allowable Subject Matter

Claim 23 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Claims 24-26 allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip S. Scuderi whose telephone number is (571) 272-5865. The examiner can normally be reached on Monday-Friday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system,

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